

RECLAMATION

Managing Water in the West

AgriMet

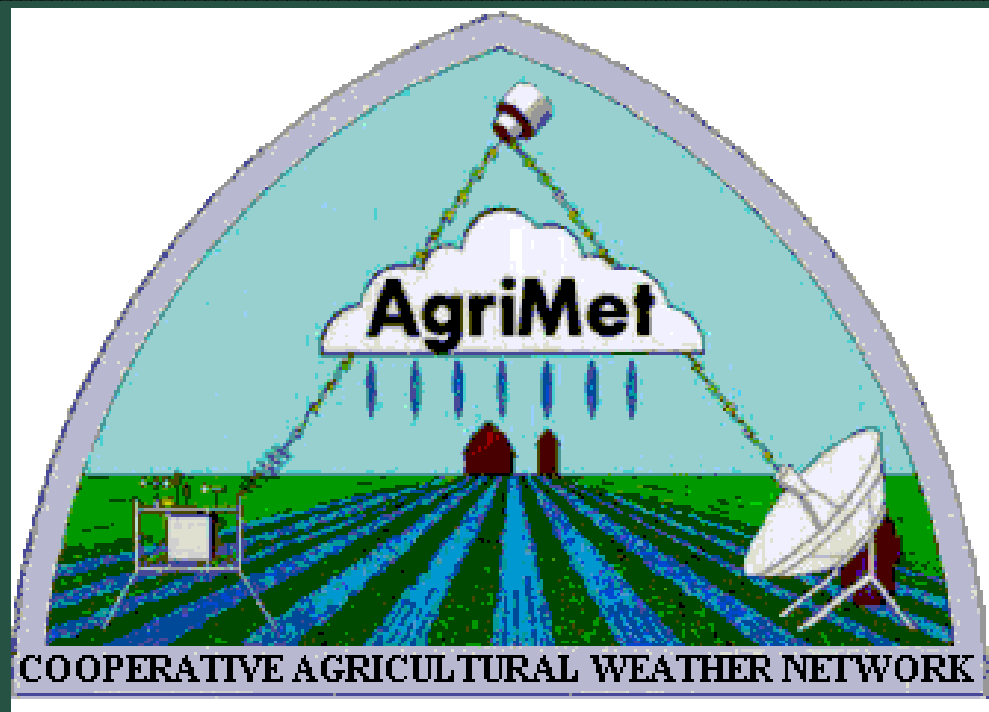
**The Cooperative Agricultural
Weather Network**



U.S. Department of the Interior
Bureau of Reclamation

AgriMet

The Cooperative
Agricultural Weather
Network



An agricultural meteorological
information system serving
the irrigators of Montana



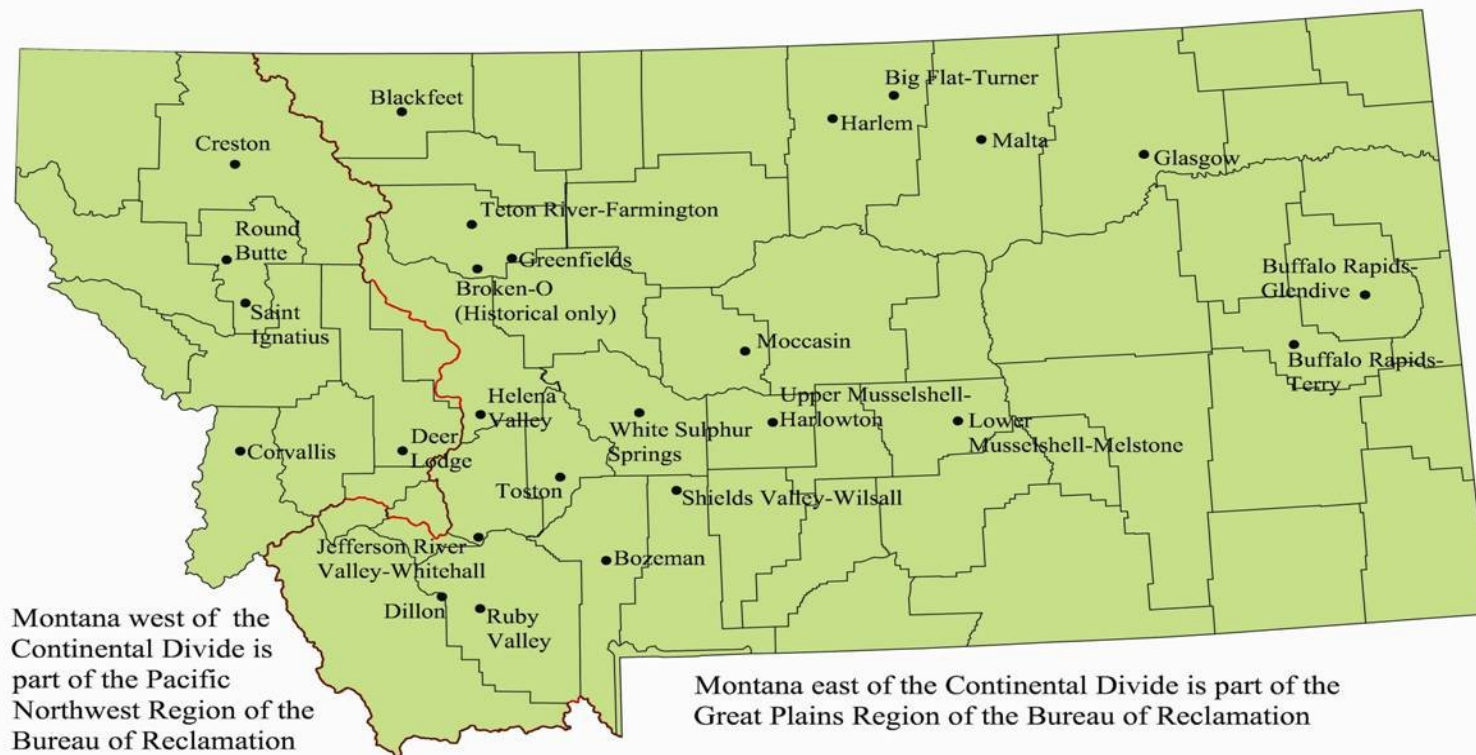
AgriMet

- Contraction of Agriculture and Meteorology
- System of automated weather stations used to provide agricultural weather data
- Weather data used to model a potential evapotranspiration rate
- Started in the Pacific Northwest as a means to promote energy and water conservation
- The BOR Pacific Northwest Region oversees about 70 stations
- The BOR Great Plains Region oversees 20 active stations located in eastern Montana

AgriMet – Water and Energy Conservation



AgriMet in Montana



Map of the AgriMet System in Montana



AgriMet-Data Collection

Each Station

Generally Monitors:

- Air Temperature
- Solar Radiation
- Relative Humidity
- Wind Speed, Direction, and Peak Gust
- Precipitation



Harlem AgriMet Station

Typical AgriMet Sensors

- Temperature and Humidity
- Wind speed, direction, etc
- Solar Radiation
- Precipitation



AgriMet-Data Collection

Additional Capabilities:

- Soil Temperature
- Soil Moisture
- Crop Canopy Temperature and/or Humidity
- Diffuse Solar Radiation
- Pan Evaporation



Harlem AgriMet Station

AgriMet-Data Collection

- Data Collected at 15 minute or hourly intervals depending on parameter
- Transmitted by GOES satellite every 4 hours
(Going to 1 hour transmission at all stations in the near future)
- Data received at central site in Boise, ID and transmitted to Billings for processing
- Processed information available via Internet
 - Collected Weather Data
 - Computed Weather Data
 - Computed Evapotranspiration
 - Computed Crop Water Use

Evapotranspiration

- **Evaporation** of moisture from the soil and plant surfaces combined with **transpiration** of water from the plant is evapotranspiration (ET)
- The loss of water through plants is mainly by transpiration through stomates, although evaporative demand also results in some direct evaporation of moisture from leaf and soil surfaces

AgriMet Evapotranspiration

Potential evapotranspiration (ET_p) rate modeled utilizing the 1982 Kimberly-Penman equation

- Combination equation
- Combines net radiation (“heat function”) and advective energy transfer (“wind function”) into one equation
- Uses alfalfa as the reference crop

1982 Kimberly-Penman Equation

$$\lambda ET_r = \frac{\Delta}{\Delta + \gamma} (R_n - G) + \frac{\gamma}{\Delta + \gamma} 6.43 W_f (e_s - e_a)$$

Units of MJ/m²/d

Where:

Δ is the slope of the saturation vapor pressure-temperature curve

γ is the psychrometric constant

R_n is the net radiation

G is the soil heat flux

W_f is dimensionless wind function

$(e_s - e_a)$ is the mean daily vapor pressure deficit

1982 Kimberly-Penman Equation (continued)

$$\frac{\Delta}{\Delta + \gamma}$$

Net Radiation weighing factor (heat function)

$$\frac{\gamma}{\Delta + \gamma}$$

Advective Energy Transfer weighing factor (wind function)

The sum of the Net Radiation and Advective Energy Transfer weighing factors equals 1

The weightings are approximately 75% *heat function* and 25% *wind function*

Crop Water Use

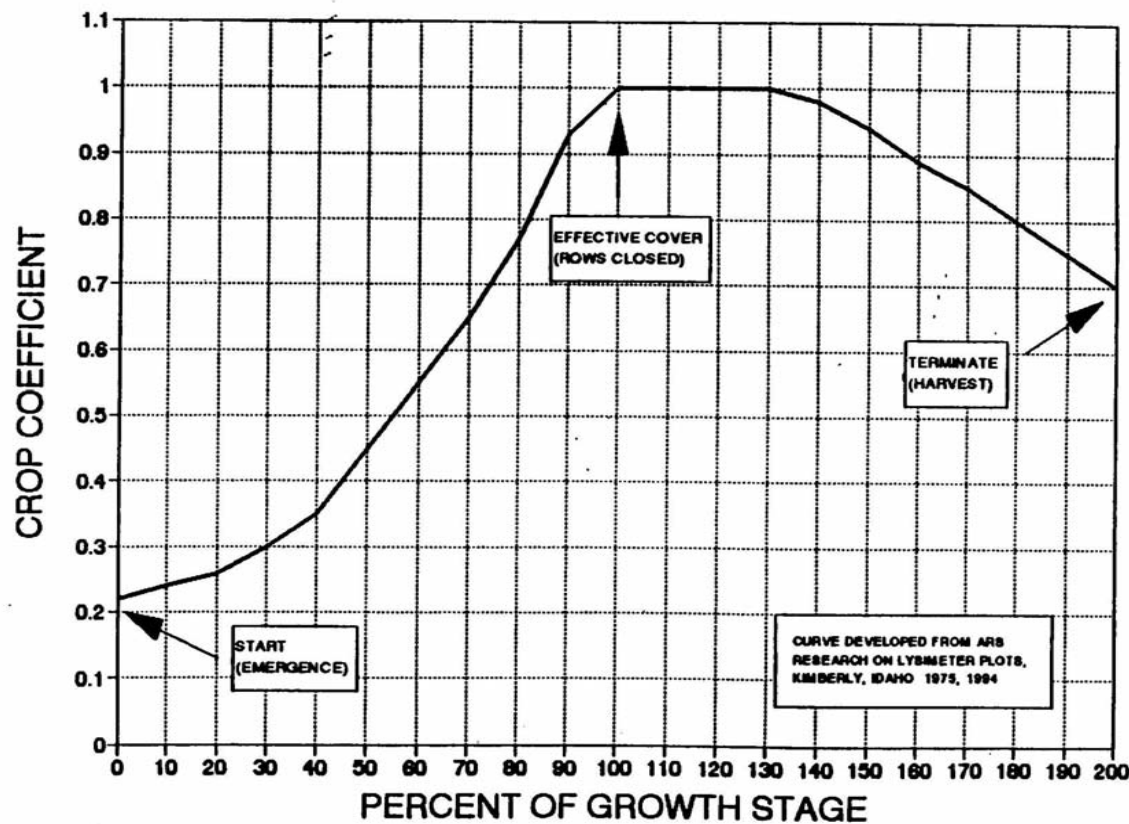
- Plants extract water from the soil to satisfy an evaporative demand in the atmosphere
- Evaporative demand is characterized by both atmospheric variables and the aerodynamic and radiative properties of the particular plant and soil environments

AgriMet – Crop Water Use

- Uses computed ETr rate
- Individual crop $ET = ETr \times Kc$ (Crop coefficient)
- Value of Kc depends on type of crop and stage of growth
- Adjustment made using crop curves (coefficients) developed by the ARS at Kimberly, ID and others

AgriMet-Crop Curves

SUGAR BEETS



% GROWTH STAGE	CROP COEFFICIENT
0	0.22
10	0.24
20	0.26
30	0.30
40	0.35
50	0.45
60	0.55
70	0.65
80	0.77
90	0.93
100	1.00
110	1.00
120	1.00
130	1.00
140	0.98
150	0.94
160	0.89
170	0.85
180	0.80
190	0.75
200	0.70

AgriMet - Crop Curves

- Alfalfa
- Beans
- Corn
- Grass Hay
- Lawn
- Pasture
- Peas
- Potatoes
- Rape (Canola)
- Spring Grain
- Sugar Beets
- Sunflowers
- Winter Grain
- Curves for other
Specialty crops are
also available

AgriMet-Internet Site

- Able to provide easy access of information to users
- Potential users beside irrigated farmers include government (Federal, State, local) agencies, power companies, universities, nonagricultural water users, etc
- Information located on BOR Great Plains Region Web Site at www.usbr.gov/gp
- Main AgriMet page for Great Plains Region is at www.usbr.gov/gp/agrimet



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and Climate
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Irrigation Guide

Pacific Northwest

The Great Plains Cooperative Agricultural Weather Network

[GP AgriMet Station List](#)

[How does an AgriMet Station work?](#)

[What is Evapotranspiration?](#)

[How is AgriMet Supported?](#)

[How do I access AgriMet?](#)

[AgriMet Network & Station Info](#)

About AgriMet

The U.S. Bureau of Reclamation, in cooperation with other federal, state, and local sponsors, has developed an agricultural weather information system called "AgriMet," with the purpose of promoting water and energy conservation. *AgriMet* is a contraction of the words AGRiculture, and METeorology. The original AgriMet program started in the Pacific Northwest in the 1980s, and was expanded into Montana, east of the continental divide, in the 1990s. AgriMet is currently a network of more than 90 automated weather stations that collect and telemeter site-specific weather data.

This information is translated into crop-specific water use information. The primary emphasis is on irrigation management--applying the right amount of water at the optimal time.

While AgriMet's primary purpose is modeling *evapotranspiration*, or the amount of water used by a crop, there are many other uses of AgriMet data, including integrated pest management, frost protection, and other crop management activities.

Other ET and Crop Water Use Programs in the Great Plains Region

- Located at www.usbr.gov/gp/agrimet/agrimet_other_similar.cfm

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U.S. Department of the Interior

AgriMet: Other Crop Use & ET Programs in the Great Plains Region

Colorado

- [CoAgMet Homepage](#)
- [ColoradoET.org - ET information resources, irrigation, and weather station data](#)
- [NCVCD Irrigation Management Service](#)
- [High Plains Climate Center Automated Weather Data Network \(AWDN\)](#)
- [AWARDS NEXRAD ET Toolbox Home Page](#)

Kansas

- [Irrigation at K-State Research and Extension](#)
- [ET Data Sources](#)
- [High Plains Climate Center Automated Weather Data Network \(AWDN\)](#)

Montana

- [Great Plains Region AgriMet Program \(East of Continental Divide\)](#)
- [Pacific Northwest Region AgriMet Program \(West of Continental Divide\)](#)
- [NDAWN Program \(Two sites in Montana near North Dakota\)](#)

Nebraska

- [CNPPID Local Weather & Crop Water Use Data](#)
- [Irrigation Scheduling](#)
- [Welcome to Crop Watch](#)
- [NebGuide-Irrigation Scheduling Using Crop Water Use Data](#)
- [NebGuide-Evapotranspiration \(ET\) or Crop Water Use](#)
- [High Plains Climate Center Automated Weather Data Network \(AWDN\)](#)
- [AWARDS NEXRAD ET Toolbox Home Page](#)

North Dakota

- [North Dakota Agricultural Weather Network \(NDAWN\)](#)
- [Crop Water Use Maps for ND](#)

Oklahoma

- [Oklahoma Agweather - Crops](#)
- [Oklahoma Climatological Survey](#)
- [Oklahoma Mesonet](#)
- [AWARDS NEXRAD ET Toolbox Home Page](#)

South Dakota

- [Ag Data: South Dakota Climate and Weather](#)
- [EvapoTranspiration query module](#)
- [High Plains Climate Center Automated Weather Data Network \(AWDN\)](#)

Texas

- [The Texas Evapotranspiration Web Site](#)
- [North Plains PET Network](#)
- [Texas North Plains PET Network Home Page](#)
- [Texas MesoNet](#)

Wyoming

There are two sites operating in Wyoming. The one at Afton, Wyoming is part of Pacific Northwest AgriMet Program. The other one, at Torrington, Wyoming is part of the High Plains Climate Center Automated Weather Data Network.

- [Pacific Northwest Region AgriMet Program - Afton Station](#)
- [High Plains Climate Center Automated Weather Data Network \(AWDN\)](#)

For further information about AgriMet, contact: [Tim Grove](#), GP Regional Office.

Privacy Policy | Disclaimer | Accessibility | FOIA | Quality of Information | FAQ | Notices
DOI | Recreation.gov | USA.gov

AgriMet Stations in Eastern Montana

- Located at www.usbr.gov/gp/agrimet/agrimet_station_list.cfm

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Other Crop Water Use & ET Programs in the Great Plains Region

Links to Regional Forecasts, Weather, and Climate Information

AgriMet Stations

- [Big Flat - Turner, MT](#)
- [Bozeman, MT](#)
- [Broken-O Ranch, MT](#)
- [Buffalo Rapids - Glendive, MT](#)
- [Buffalo Rapids - Terry, MT](#)
- [Blackfoot - Seville Colony, MT](#)
- [Dillon, MT](#)
- [Glasgow, MT](#)
- [Greenfields - Fairfield, MT](#)
- [Harlem, MT](#)
- [Helena Valley, MT](#)
- [Jefferson River Valley - Whitehall, MT](#)
- [Lower Musselshell - Melstone, MT](#)
- [Malta, MT](#)
- [Moccasin, MT](#)
- [Ruby River Valley - Laurin, MT](#)
- [Shields Valley - Wilsall, MT](#)
- [Teton River - Farmington, MT](#)
- [Toston, MT](#)
- [Upper Musselshell - Harlowton, MT](#)
- [White Sulphur Springs, MT](#)

The following stations in Montana are located west of the Continental Divide: [Corvallis](#), [Creston](#), [Deer Lodge](#), [Round Butte](#), and [St. Ignatius](#). These AgriMet stations are all part of the USBR [Pacific Northwest AgriMet Program](#).

In addition, the [North Dakota Agriculture Weather Network](#)(click here for weather information) has stations in Montana located at [Sidney](#)(click here for crop water use information) and [Brorson](#)(click here for crop water use information).

AgriMet is a satellite-linked, weather and evapotranspiration (ET) reporting network. This network is used to assist irrigators in scheduling irrigation applications. Growers use the system's data along with field examinations to determine when and how much water is required for optimum crop growth.

For further information about AgriMet, contact: [Tim Grove](#), GP Regional Office.

Information Available for an Individual Station

- General Information on location, installation date, etc
- Daily Weather Data
- Archived Weather Data
- Crop Water Use Charts
- ET Summaries

Sample Internet Page for an AgriMet Station

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AgriMet Data Collection Station, near Harlem, Montana, part of the Great Plains Agricultural Data Collection System. For more information about AgriMet, see the About AgriMet page, accessible from the menu on the left.

AgriMet: Weather & Crop Water Use Charts

Harlem, Montana

- [AgriMet Home](#)
- [AgriMet Station List](#)
- [Daily Weather Information](#)
- [Archival Weather Information](#)
- [Crop Water Use Charts](#)
- [Crop Evapotranspiration Summaries](#)

The AgriMet station HRLM was installed March 25, 1998. The cooperating agencies involved with this station are the Bureau of Reclamation, Montana AgriMet Coalition of Conservation Districts, Blaine County Conservation District, Chinook Division Irrigation Districts, Montana Department of Natural Resources and Conservation, and BIA-Fort Belknap Indian Irrigation Project.

The site is located approximately 1.5 miles west of Harlem, Montana. latitude: 48 32 36 longitude: 108 50 05 elevation-2358'

AgriMet – Daily Weather Data

Daily Weather Data

Dayfiles Information:

[<top of page>](#) [<station list>](#) [<dayfiles>](#) [<archival water info>](#) [<crop water use charts>](#) [<crop ET summaries>](#)

Enter date, time period, and parameter codes then submit your request
(please note, all fields must be completed, with times in a [24-hour format](#))

Station Code:

Enter date (YYMMDD no spaces, e.g., [96JAN01](#)):

Enter start time using [24-hour clock](#) (HH:MM, e.g., 05:15):

Enter end time using [24-hour clock](#) (HH:MM, e.g., 14:45):

(Note: To obtain all current data for the day for selected parameters, enter a start time of 00:00 and an end time of 23:45)

BV = BATTERY VOLTAGE

OB = TEMPERATURE (deg F)

PC = ACCUM PRECIPITATION (inches)

SQ = ACCUM SOLAR RADIATION (langley)

TP = DEW POINT TEMPERATURE (deg F)

TU = RELATIVE HUMIDITY (%)

UI = ACCUM WIND RUN (miles)

WD = WIND DIRECTION (deg az)

WG = PEAK WIND GUST (mph)

WS = AVG WIND SPEED (mph)

Enter up to six parameters from above list, separated by commas,
but without spaces (e.g., OB,PC,SQ):

Submit

Reset

HRLM	03AUG20	AIRTEMP	SOLAR	HUMIDTY	DEWPT	WG	WINDDIR
	00:00	58.36	1174.00	84.00	53.56	2.00	349.00
	00:15	59.32	1174.00	74.00	51.04	2.88	354.00
	00:30	58.54	1174.00	79.00	52.05	1.11	329.00
	00:45	57.68	1174.00	80.00	51.56	2.88	191.00
	01:00	56.13	1174.00	87.00	52.32	2.00	175.00
	01:15	57.68	1174.00	82.00	52.23	2.00	83.00
	01:30	56.92	1174.00	77.00	49.80	2.88	71.00
	01:45	58.06	1174.00	85.00	53.58	3.77	272.00
	02:00	59.27	1174.00	80.00	53.11	8.19	44.00
	02:15	59.76	1174.00	70.00	49.97	2.88	30.00
	02:30	59.40	1174.00	76.00	51.85	5.54	194.00
	02:45	59.84	1174.00	79.00	53.33	3.77	232.00
	03:00	60.91	1174.00	70.00	51.08	4.65	319.00
	03:15	60.69	1174.00	76.00	53.09	3.77	286.00
	03:30	60.73	1174.00	69.00	50.52	7.31	217.00
	03:45	60.38	1174.00	73.00	51.70	2.88	237.00
	04:00	63.78	1174.00	59.00	49.20	12.55	268.00
	04:15	63.73	1174.00	61.00	50.05	9.07	266.00
	04:30	65.47	1174.00	57.00	49.85	9.93	327.00
	04:45	72.79	1174.00	43.00	49.02	24.96	323.00
	05:00	73.01	1174.00	43.00	49.22	22.31	313.00
HRLM	03AUG20	AIRTEMP	SOLAR	HUMIDTY	DEWPT	WG	WINDDIR
	05:15	74.32	1174.00	41.00	49.12	20.54	299.00
	05:30	73.07	1174.00	46.00	51.08	21.42	301.00
	05:45	71.13	1174.00	51.00	52.11	16.12	335.00
	06:00	70.76	1174.00	45.00	48.40	13.46	334.00
	06:15	70.27	1174.00	46.00	48.54	11.70	334.00
	06:30	68.43	1174.02	50.00	49.09	8.19	333.00
	06:45	67.06	1174.14	52.00	48.87	8.19	307.00
	07:00	66.45	1174.55	53.00	48.82	9.93	316.00
	07:15	66.06	1174.92	50.00	46.90	9.93	346.00
	07:30	65.47	1175.35	49.00	45.83	11.70	345.00
	07:45	65.56	1175.93	46.00	44.26	23.19	236.00
	08:00	66.01	1178.59	45.00	44.08	24.08	2.00
	08:15	66.45	1183.42	48.00	46.19	24.08	352.00
	08:30	66.85	1190.15	47.00	46.00	22.31	351.00
	08:45	65.71	1192.24	50.00	46.59	23.19	3.00
	09:00	67.41	1199.54	48.00	47.06	23.19	51.00
	09:15	68.07	1207.79	49.00	48.22	22.31	345.00
	09:30	68.74	1216.95	49.00	48.84	21.42	17.00
	09:45	69.58	1227.01	49.00	49.60	19.66	337.00
	10:00	69.74	1237.90	49.00	49.75	13.43	41.00

AgriMet – Archive Weather Data

Archive Information:

[<top of page>](#) [<station list>](#) [<dayfiles>](#) [<archival water info>](#) [<crop water use charts>](#) [<crop ET summaries>](#)

Enter water year, time period and a parameter code:

Station: Water Year:

Enter Time Period (e.g., AUG1, SEP15);
or enter YEAR (all caps) for the water year summary;
or leave field blank to return last five days:

Parameters:

Submit

Reset

YY	Station	Parameter	Fri AUG15	Sat AUG16	Sun AUG17	Mon AUG18	Tue AUG19
====	=====	=====	=====	=====	=====	=====	=====
2003	HRLM	PEN-ET	0.320	0.430	0.230	0.260	0.260
2003	HRLM	MIN-TMP	51.908	60.959	61.185	52.643	53.783
2003	HRLM	MAX-TMP	99.211	103.509	81.512	89.283	90.312
2003	HRLM	PRECIP	0.006	0.023	0.006	0.000	0.000
2003	HRLM	SOLAR	533.226	548.501	331.899	543.792	531.020
2003	HRLM	AV-HUM	49.370	45.755	64.365	51.625	55.839
2003	HRLM	WINDRUN	98.000	170.492	144.309	72.459	77.939
2003	HRLM	AVG-DEW	51.154	53.552	56.440	48.414	52.477

AgriMet- Crop Water Use Chart Information

- Crop
- Start date, Cover date, Terminate Date
- Daily ET (previous four days)
- Daily forecast
- Sum ET (total for season)
- Past 7 and 14 day ET rates

AgriMet - Crop Water Use Chart

Crop Water Data

Crop Water Use Charts:

[<top of page>](#) [<station list>](#) [<dayfiles>](#) [<archival water info>](#) [<crop water use charts>](#) [<crop ET summaries>](#)

Station:

HRLM = Harlem, MT

Year:

2008

Submit

Reset

- [About Crop Water Use Charts](#)
- [Key to Crop Codes \(pop-up window\)](#)

*** NOTE: Crop water use charts are automatically run and updated
on AgriMet every morning at about 5 a.m. Mountain time

Due to either a data correction or model adjustment,
the HRLM chart was rerun or updated a second time on 801 ***

```

*****
*
* ESTIMATED CROP WATER USE - AUG 20, 2003      HRLM
*
*****
*
*          *          DAILY          *          *          *          *          *
*          * CROP WATER USE-(IN) * DAILY *          *          *          *          *
* CROP START* PENMAN ET - AUG * FORE *COVER* TERM* SUM * DAY* DAY *
*   DATE *-----* CAST * DATE* DATE* ET * USE* USE *
*   *   *   *   *   *   *   *   *   *   *   *   *   *
*   *   *   *   *   *   *   *   *   *   *   *   *   *
* ETr  401 * 0.43 0.23 0.26 0.26 * 0.25 * 601 *1005 * 33.8 * 2.1* 4.3 *
* ALFP 410 * 0.43 0.23 0.26 0.26 * 0.25 * 605 * 930 * 30.4 * 2.1* 4.3 *
* ALFM 410 * 0.37 0.20 0.22 0.22 * 0.21 * 605 * 930 * 26.2 * 1.8* 3.6 *
* PAST 401 * 0.29 0.16 0.18 0.18 * 0.17 * 610 * 930 * 21.5 * 1.4* 2.9 *
* LAWN 401 * 0.34 0.18 0.21 0.21 * 0.20 * 520 * 930 * 26.0 * 1.7* 3.4 *
* BLGR 410 * 0.00 0.00 0.00 0.00 * 0.00 * 520 * 710 * 12.7 * 0.0* 0.0 *
* WGRN 401 * 0.00 0.00 0.00 0.00 * 0.00 * 601 * 715 * 18.2 * 0.0* 0.0 *
* SGRN 501 * 0.00 0.00 0.00 0.00 * 0.00 * 701 * 805 * 20.8 * 0.0* 0.0 *
* SGRN 510 * 0.00 0.00 0.00 0.00 * 0.00 * 705 * 810 * 20.8 * 0.0* 0.5 *
* SGRN 525 * 0.00 0.00 0.00 0.00 * 0.00 * 710 * 815 * 19.7 * 0.2* 1.4 *
* SGRN 605 * 0.32 0.16 0.17 0.15 * 0.15 * 725 * 825 * 19.4 * 1.6* 3.7 *
* FCRN 601 * 0.43 0.23 0.26 0.26 * 0.25 * 801 * 925 * 16.3 * 2.1* 4.3 *
* PEAS 601 * 0.00 0.00 0.00 0.00 * 0.00 * 725 * 815 * 13.5 * 0.1* 0.9 *
* RAPE 601 * 0.18 0.09 0.09 0.08 * 0.08 * 710 * 820 * 19.8 * 0.9* 2.5 *
* RAPE 620 * 0.43 0.23 0.26 0.26 * 0.25 * 801 * 910 * 16.2 * 2.1* 4.3 *
* SUNF 601 * 0.43 0.23 0.26 0.26 * 0.25 * 805 *1005 * 16.6 * 2.1* 4.3 *
* POTA 525 * 0.38 0.20 0.23 0.22 * 0.22 * 710 * 925 * 19.9 * 1.8* 3.8 *
*****

```



Irrigation Scheduling

- Mass balance approach
 - ✓ Treat control volume as a “checkbook”
 - ✓ Initial balance is soil moisture at beginning of season
 - ✓ Treat recharge as a credit into account
 - ✓ Evapotranspiration as a debit
 - ✓ Decide when next deposit or credit needs to be made dependent on established criteria

AgriMet - ET Summary

Crop Evapotranspiration (ET) Summaries:

[<top of page>](#) [<station list>](#) [<dayfiles>](#) [<archival water info>](#) [<crop water use charts>](#) [<crop ET summaries>](#)

Station: Year:

Submit

Reset

For further information about AgriMet, contact: [Tim Grove](#), GP Regional Office.

HRLM - ET SUMMARY - 2003

DATE	10 ETR	11 ALFP	12 ALFM	14 PAST	15 LAWN	16 BLGR	21 WGRN	22 SGRN	23 SGRN	24 SGRN	25 SGRN	26 FCRN	40 PEAS	81 RAPE	82 RAPE	83 SUNF
402	0.08	--	--	0.02	0.01	--	0.02	--	--	--	--	--	--	--	--	--
403	0.10	--	--	0.03	0.02	--	0.03	--	--	--	--	--	--	--	--	--
404	0.08	--	--	0.02	0.01	--	0.02	--	--	--	--	--	--	--	--	--
405	0.06	--	--	0.02	0.01	--	0.02	--	--	--	--	--	--	--	--	--
406	0.08	--	--	0.02	0.02	--	0.03	--	--	--	--	--	--	--	--	--
407	0.11	--	--	0.03	0.03	--	0.04	--	--	--	--	--	--	--	--	--
408	0.18	--	--	0.05	0.06	--	0.08	--	--	--	--	--	--	--	--	--
409	0.24	--	--	0.07	0.09	--	0.11	--	--	--	--	--	--	--	--	--
410	0.21	0.03	0.03	0.07	0.09	0.06	0.10	--	--	--	--	--	--	--	--	--
411	0.20	0.03	0.03	0.07	0.09	0.06	0.10	--	--	--	--	--	--	--	--	--
412	0.19	0.03	0.03	0.06	0.09	0.06	0.10	--	--	--	--	--	--	--	--	--
413	0.15	0.03	0.03	0.05	0.08	0.05	0.08	--	--	--	--	--	--	--	--	--
531	0.18	0.18	0.15	0.12	0.14	0.17	0.18	0.17	0.14	0.04	--	--	--	--	--	--
601	0.21	0.21	0.18	0.14	0.17	0.20	0.21	0.20	0.17	0.05	--	0.06	0.04	0.04	--	0.02
602	0.17	0.17	0.14	0.12	0.14	0.16	0.17	0.16	0.14	0.05	--	0.05	0.03	0.03	--	0.02
603	0.16	0.16	0.14	0.11	0.13	0.15	0.16	0.15	0.14	0.05	--	0.05	0.03	0.03	--	0.02
604	0.19	0.19	0.16	0.13	0.15	0.18	0.19	0.18	0.17	0.07	--	0.06	0.04	0.04	--	0.03
605	0.16	0.16	0.14	0.11	0.13	0.15	0.16	0.16	0.14	0.07	0.03	0.05	0.03	0.03	--	0.02
606	0.18	0.18	0.15	0.12	0.14	0.17	0.18	0.18	0.17	0.09	0.04	0.05	0.04	0.04	--	0.03
607	0.23	0.23	0.20	0.16	0.18	0.21	0.23	0.23	0.22	0.13	0.05	0.07	0.05	0.06	--	0.04
608	0.18	0.18	0.15	0.12	0.14	0.16	0.18	0.18	0.17	0.11	0.04	0.05	0.04	0.05	--	0.04
609	0.15	0.15	0.13	0.10	0.12	0.13	0.15	0.15	0.14	0.10	0.03	0.05	0.04	0.05	--	0.03
610	0.13	0.13	0.11	0.09	0.10	0.11	0.13	0.13	0.12	0.09	0.03	0.04	0.03	0.05	--	0.03
611	0.16	0.16	0.14	0.11	0.13	0.14	0.16	0.16	0.15	0.12	0.04	0.05	0.04	0.08	--	0.04
612	0.24	0.24	0.20	0.16	0.19	0.20	0.24	0.24	0.23	0.19	0.06	0.08	0.06	0.13	--	0.06
613	0.32	0.32	0.27	0.22	0.26	0.26	0.32	0.32	0.31	0.27	0.08	0.10	0.09	0.20	--	0.09
614	0.21	0.21	0.18	0.14	0.17	0.17	0.21	0.21	0.21	0.18	0.06	0.07	0.06	0.14	--	0.06
615	0.25	0.25	0.21	0.17	0.20	0.19	0.25	0.25	0.25	0.22	0.08	0.08	0.07	0.18	--	0.08
616	0.25	0.25	0.21	0.17	0.20	0.18	0.25	0.25	0.25	0.23	0.09	0.08	0.07	0.20	--	0.08
617	0.30	0.30	0.26	0.20	0.24	0.20	0.30	0.30	0.30	0.28	0.13	0.10	0.09	0.25	--	0.10
618	0.38	0.38	0.32	0.26	0.30	0.23	0.38	0.38	0.38	0.36	0.18	0.13	0.11	0.33	--	0.13
619	0.40	0.40	0.34	0.27	0.32	0.21	0.40	0.40	0.40	0.38	0.22	0.14	0.13	0.36	--	0.14
620	0.21	0.21	0.18	0.14	0.17	0.10	0.21	0.21	0.21	0.20	0.13	0.07	0.07	0.19	0.04	0.08
621	0.29	0.29	0.25	0.20	0.23	0.13	0.29	0.29	0.29	0.28	0.19	0.11	0.10	0.27	0.06	0.11
810	0.38	0.38	0.32	0.26	0.30	--	--	--	0.00	0.19	0.38	0.38	0.13	0.25	0.38	0.38
811	0.33	0.33	0.28	0.22	0.26	--	--	--	--	0.15	0.32	0.33	0.10	0.21	0.33	0.33
812	0.25	0.25	0.21	0.17	0.20	--	--	--	--	0.10	0.24	0.25	0.06	0.15	0.25	0.25
813	0.28	0.28	0.24	0.19	0.22	--	--	--	--	0.10	0.26	0.28	0.06	0.15	0.28	0.28
814	0.31	0.31	0.26	0.21	0.25	--	--	--	--	0.10	0.27	0.31	0.06	0.16	0.31	0.31
815	0.32	0.32	0.27	0.22	0.26	--	--	--	--	0.00	0.26	0.32	0.00	0.15	0.32	0.32
816	0.43	0.43	0.37	0.29	0.34	--	--	--	--	--	0.32	0.43	--	0.18	0.43	0.43
817	0.23	0.23	0.20	0.16	0.18	--	--	--	--	--	0.16	0.23	--	0.09	0.23	0.23
818	0.26	0.26	0.22	0.18	0.21	--	--	--	--	--	0.17	0.26	--	0.09	0.26	0.26
819	0.26	0.26	0.22	0.18	0.21	--	--	--	--	--	0.15	0.26	--	0.08	0.26	0.26

Reclamation Involvement in the AgriMet Program

- Installation of stations
- Oversees collection and processing of raw weather data
- Oversees monitoring and quality control of weather data
- Oversees computation of ETr and Crop Water Use products
- Oversees providing information to the public via Internet
- Assists with yearly O&M at stations and calibration of sensors at each station
- Assists with remedial maintenance at stations due to data problems
- Obtain agreements with users to provide for funding to assists in covering O&M costs
- Provide assistance (workshops, answers to E-mails, etc) on the use of the AgriMet data

AgriMet

Questions???

